Amendments to the Claims

The following listing of claims replaces all previous listings and versions of claims in this application.

1. (Currently Amended) A marine backhoe dredge, comprising:

a vessel;

a backhoe movably mounted on the vessel, the backhoe including a boom, a stick, and a bucket wherein each of the boom, stick, and bucket is pivotable and has an independent range of motion; and

a counterbalancing system to increase hoisting capacity or hoisting speed of the backhoe, the counterbalancing system including a support structure mounted to the vessel, a counterbalance, and one or more cables operatively associated with the support structure, counterbalance and backhoe and being connected to the backhoe and counterbalance.

2. (Original) The backhoe dredge of claim 1, wherein each of the boom, stick, and bucket of the backhoe is hydraulically driven by a hydraulic actuator.

3. (Cancelled)

4. (Original) The backhoe dredge of claim 1, wherein the backhoe is mounted to the vessel by a pedestal mount, a turntable mount or a track mount.

5. (Original) The backhoe dredge of claim 1, wherein the counterbalance is a winch that collects or releases the one or more cables as the backhoe is operated.

6. (Withdrawn) The backhoe dredge of claim 1, wherein the counterbalance structure is a counterweight movably mounted on the vessel to collect or release the cable as the backhoe is operated.

7. (Currently Amended) A marine ~~The~~ backhoe dredge ~~of claim 1,~~ comprising:

a vessel;

a backhoe movably mounted on the vessel, the backhoe including a boom, a stick, and a bucket; and

a counterbalancing system to increase hoisting capacity or hoisting speed of the backhoe, the counterbalancing system including a support structure mounted to the vessel, a counterbalance, and one or more cables operatively associated with the support structure, counterbalance and backhoe and being connected to the backhoe and counterbalance;

wherein the counterbalancing system support structure is pivotable and in operative association with the backhoe.

8. (Original) The backhoe dredge of claim 1, wherein the counterbalancing system support structure is an A-frame assembly.

9. (Currently Amended) The backhoe dredge of claim 1, further including at least one tie-back cable attached to the ~~adjustable~~ counterbalancing system support structure and anchored to the vessel.

10. (Original) The backhoe dredge of claim 9, wherein the at least one tie-back cable is a wire rope having a diameter of between about 1 to 3 inches.

11. (Original) The backhoe dredge of claim 9, wherein the at least one tie-back cable is capable of accommodating a backstay load of between about 200 KIPS.

12. (Original) The backhoe dredge of claim 1, wherein the boom, stick and bucket weighs between about 50 to 300 tons, wherein the bucket has a capacity of between about 5 to 35 cubic yards so that the backhoe dredge has a capacity to mine a channel or trench having a depth of up to about 85 feet.

13. (Original) The backhoe dredge of claim 1, further comprising a plurality of spuds to inhibit movement of the vessel during operation of the backhoe.

14. (Original) The backhoe dredge of claim 13, wherein at least three spuds are provided in operative association such that at least one spud is maintained in a fixed position while the backhoe is operating, and at least one spud is configured to stabilize the vessel in one position but allow advancing of the vessel in another position.

15. (Original) A marine backhoe dredge comprising:

a water craft;

a hydraulically driven backhoe movably mounted to the water craft, the backhoe including an extension arm having a bucket pivotably attached to a distal end of the extension arm; and

a counterbalancing system for increasing hoisting capacity or hoisting speed of the backhoe, the counterbalancing system including an A-frame assembly mounted to the watercraft, one or more cables, and a counterbalance mounted upon the water craft, the one or more cables operatively associated to the backhoe, counterbalance and the A-frame support structure, and being connected between the backhoe and counterbalance,

wherein the counterbalance is a winch that collects or releases the one or more cables as the backhoe is operated and the backhoe has a bucket capacity of about 5 to 35 cubic yards, and a dredging depth capacity of up to about 85 feet.

16. (Original) The backhoe dredge of claim 15, wherein the water craft is a barge and further including at least one tie-back cable attached to the A-frame assembly and anchored to the vessel, with the at least one tie-back cable being a wire rope having a diameter between about 1 to 3 inches so that the at least one tie-back cable is capable of accommodating a backstay load of between about 200 KIPS.

17. (Original) The backhoe dredge of claim 16, wherein the extension arm and bucket weigh between about 50 to 300 tons and further including a plurality of spuds to inhibit movement of the water craft during operation of the backhoe dredge, wherein at least three spuds are provided in operative association such that at least one spud is maintained in a fixed position while the backhoe is operating, and at least one spud is configured to stabilize the barge in one position but allow advancing of the vessel in another position.

18. (Withdrawn, Currently Amended) The ~~A marine~~ backhoe dredge of claim 1, ~~comprising~~ wherein:

the vessel is a water craft;

the backhoe is a hydraulically driven backhoe movably mounted to the water craft~~, the backhoe including an extension arm having a bucket pivotably attached to a distal end of the extension arm~~; and

[[a]] the counterbalancing system ~~for increasing hoisting capacity or hoisting speed of the backhoe, the counterbalancing system including~~ comprises an A-frame assembly mounted to the watercraft, one or more cables, and a counterbalance mounted upon the water craft, the one or more cables operatively associated to the backhoe, counterbalance and the A-frame support structure, and being connected between the backhoe and counterbalance,

wherein the counterbalance is a counterweight and tower arrangement that collects or releases the one or more cables as the backhoe is operated by vertical movement of the counterweight in the tower, the backhoe has a bucket capacity of about 5 to 35 cubic yards, and the dredge a dredging depth capacity of up to about 85 feet.

19. (Withdrawn) The backhoe dredge of claim 18, wherein the water craft is a barge and further including at least one tie-back cable attached to the A-frame assembly and anchored to the vessel, with the at least one tie-back cable being a wire rope having a diameter between about 1 to 3 inches so that the at least one tie-back cable is capable of accommodating a backstay load of between about 200 KIPS.

20. (Withdrawn) The backhoe dredge of claim 19, wherein the extension arm and bucket weigh between about 50 to 300 tons and further including a plurality of spuds to inhibit movement of the water craft during operation of the backhoe dredge, wherein at least three spuds are provided in operative association such that at least one spud is maintained in a fixed position while the backhoe is operating, and at least one spud is configured to stabilize the barge in one position but allow advancing of the vessel in another position.

21. (New) The backhoe dredge of claim 7, wherein the counterbalance is a winch that collects or releases the one or more cables as the backhoe is operated.

22. (New) The backhoe dredge of claim 7, wherein the counterbalance structure is a counterweight movably mounted on the vessel to collect or release the cable as the backhoe is operated.